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HIGH LEVELS OF NEURON SPECIFIC ENOLASE IN SUBRETINAL FLUID DURING RETINAL DETACHMENT

AOUIDIDI S.[1], COQUEREL A..[2] and BRASSEUR G[1]
[1]Service d'ophtalmologie, [2]Laboratoire de radio-analyse, Hopital Charles Nicolle, Rouen, France.

Purpose : To evaluate the presence of Neuron Specific Enolase (NSE) in subretinal fluid (SRF) as a potential marker for retinal damage and to correlate these levels with retinal detachment (RD) parameters. NSE is a reliable marker of neuronal lysis in the cerebro-spinal fluid in brain damage. Levels of NSE in the aqueous humour are also elevated in retinoblastoma. NSE has been detected in all layers of normal human retina except Muller cells and retinal pigment epithelium.
Methods : SRF and blood samples were collected during RD before cryotherapy (CT) in 3 cases (Group 1), after CT in 18 cases (Group 2), before and after CT in 2 cases (Group 3). NSE was measured with a radioimmunoassay (sensitivity 1ng/ml). We had no reference values for subretinal fluid. Normal range is < 15ng/ml. in aqueous humor (collected in 10 patients prior to cataract surgery).
Results : Mean levels of NSE in SRF in group 2 (1264 ± 881 ng/ml) were significantly higher ($p < 0.01$) than those in group 1 (157 ± 114 ng/ml). A 10 fold increase was noticed after CT in the SRF of both patients of group 3. No correlation could be found between the levels of NSE and the duration of RD, it's size, the presence of PVR, visual recovery, visual field testing or the age of the patient, with a 6 months follow up.
Conclusion : Elevation of NSE levels prior to cryotherapy suggest a moderate retinal lysis secondary to RD. Much higher levels of NSE found after CT in the SRF of these patients suggest an important retinal damage related with this CT. NSE evaluation could be useful to compare retinal damage induced by diode laser therapy versus CT.

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TITLE: EXPERIMENTAL RETINAL TOXICITY OF INTRAVITREAL INJECTION OF LIPOSOME ENCAPSULATED 5-FLUOROURIDINE

AUTHORS: Cano-Parra J[1], Ruiz-Lapuente C[1], Martinez-Palmer A[1], Castilla M[1], Cerdá-Nicolás M[2], Diaz M[2].
1.- IMIM, Barcelona.
2.- La Fe Hospital, Valencia.

PURPOSE. To evaluate retinal toxicity of intravitreal injection of liposome encapsulated 5-fluorouridine (L5-FUR) in rabbits undergoing experimental PVR.**METHODS.** PVR was induced in 9 pigmented rabbits by criotherapy and gas compression of the vitreous (C3F8). Six eyes were injected with 0.1 ml of liposomes containing 5-FUR (1mg/ml) and 3 control eyes were injected with empty liposomes. Eyes were enucleated at 24 h, 14 days or 28 days for light and electron microscopy studies. **RESULTS.**
Light and electron microscopic studies showed slight vacuolization of outer photorreceptor segment in all cases. Nevertheless, effect was minimal at 24 h, maximal at 14 days, and slopping thereafter until 28 days.
CONCLUSIONS. Intravitreal injection of liposome encapsulated 5-fluorouridine (L5-FUR) in rabbits with experimental PVR induced mild toxicity in outer photorreceptor layer.

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TITLE: EXPERIMENTAL RETINAL TOXICITY OF INTRAVITREAL INJECTION OF MITOMYCIN C

AUTHORS: Cano-Parra J[1], Ruiz-Lapuente C[1], Martinez-Palmer A[1], Castilla M[1], Cerdá-Nicolás M[2], Diaz M[2].
1.- IMIM, Barcelona.
2.- La Fe Hospital, Valencia.

PURPOSE. To evaluate retinal toxicity of intravitreal injection of mitomycin C in rabbits undergoing experimental PVR.**METHODS.** PVR was induced in 9 pigmented rabbits by criotherapy and gas compression of the vitreous (C3F8). Six eyes were injected with 0.1 ml of mitomycin C (0.02 mg/ml) and 3 control eyes were injected with empty liposomes. Eyes were enucleated at 24 h, 14 days or 28 days for light and electron microscopy studies. **RESULTS.** Light and electron microscopic studies showed slight vacuolization of outer photorreceptor segment in all cases. Nevertheless, effect was maximal at 24 h, and slopping thereafter until 28 days.
CONCLUSIONS. Intravitreal injection of mitomycin C in rabbits with experimental PVR induced mild acute toxicity in outer photorreceptor layer.

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ATAVAQUONE, A NEW APPROACH OF OCULAR TOXOPLASMOSE TREATMENT

HETTESHEIMER H. and VÖLKER M.
University Eye Clinic Tübingen, Germany

Purpose: Cerebral toxoplasmosis is the most common opportunistic infection of the central nervous system in AIDS-patients. The treatment of ocular toxoplasmosis with conventional drug regimes - sulphadiacin or clindamycin plus pyrimethamine - can occasionally produce severe side effects and adverse reactions. But maintenance therapy must be continued for life time because of the high recurrence rates. Atavaquone is a new hydroxy-naphthoquione which is tolerated excellently by the pattients The drug is very effective against tachycoits of toxoplasma gondii and its cysts as well.
Case report: A 29-year-old female with HIV-infection developed an allergic rash after being treated with a course of pyrimethamine and clindamycin (Sobellin) for unilateral, unifocal ocular toxoplasmosis for 14 days. Therapy with atovaquone (4 x 750 mg/d) was administered. Within 14 days the infiltrate disappeared resulting a chorioretinal scar.
Result: The oral treatment with atovaquone (4 x 750 mg/d) was not accompanied with allergic complications. During maintenance therapy with atovaquone (3 x 750 mg/d) no recurrency occurred during a period of 9 month. The vitreous haze stadily decreased and the chorioretinal scar was pigmented.
Conclusion: In this patient atovaquone proved to be an effective and well tolerated drug for the treatment of ocular toxoplasmosis. It might believe that atovaquone is a valid alternate to standard drugs such as regimes with pyrimethamine, clindamycin or sulfonamides which otherwise are often complicated by toxic side effects and allergic reactions. Future clinical investigations will have to evaluate whether atovaquone will be a real alternate in longterm treatment of ocular toxoplasmosis.